

Work Order ID 150381

Wednesday, August 24, 2016 11:48:51 AM

150381

Page 1

Item ID: 647.1501 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Lower Deflector Assembly
 Start Date: 8/19/2016 Start Qty: 1.00 ***1*** Cust Item ID:
 Required Date: 8/24/2016 Req'd Qty: 1.00 ***1*** Customer:
 Reference:

Approvals: Process Plan: **DAS 21 9-89** Date: **AUG 29 2016** Tooling: Date: Run Start ***NR1***
 QC: Date: SPC (Y/N): Date: Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
647.1500	C								

110 Pick Kit 0.00

110

Packaging Memo 0.00
 Packaging

120 0.00

120

Small Fab Memo 0.10

Small Fab Assemble as per dwg and apply loctite 598 on all faying surfaces per note 5.

A/R RTV LOCTITE 598: **135479**
 exp. date: **04/18**

130 QC5- Inspect part completeness to step on W/O 0.00

130

QC Memo 0.00

Quality Control

DAS 38 9-89

SEP 30 2016

DAS 36 9-89

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐																																																													
Date :		Step #:		QTY Effective :				MRB (QSI042) Approval																																																									
Description Work Order Deviation				Disposition				Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval																																																									
Root Cause		FAULT CATEGORY																																																															
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐	Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐	Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐	Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐	Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐	Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐	Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐	Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐	LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐	Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐	Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____			
Misidentified ☐	Past Due ☐																																																																

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Page 2

Item ID: 647.1501**Accept*****N900040100*****Setup Start*****NS1*****Revision ID:****Stop *NS2*****Item Name:** Lower Deflector Assembly**Start Date:** 8/19/2016 **Start Qty:** 1.00***1*****Cust Item ID:****Required Date:** 8/24/2016 **Req'd Qty:** 1.00***1*****Customer:****Reference:****Approvals:****Process Plan:** _____**Date:** _____**Tooling:** _____**Date:** _____**Run Start*****NR1*****QC:** _____**Date:** _____**SPC (Y/N):** _____**Date:** _____**Stop*****NR2*****Sequence ID/
Work Center ID****Operation
Description****Set Up/
Run Hours****Tool ID****Tool #****Plan
Code****Accept
Qty****Reject
Qty****Reject
Number****Insp.
Stamp**

140

Identify as per dwg & Stock Location: CC kool 0.00***140***

Packaging

Memo

0.00

1 SEP 30 2016DAS
6
J-89

Packaging

IDENTIFY AS PER APICAL MPP-120 BY STAMPING P# AND REV

150

QC21- Final Inspection - Work Order Release

0.00

150

QC

Memo

0.02

DAS
21
9-89

OCT 03 2016

Quality Control

DAS
21
9-89

SEP 30 2016

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐																																																													
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Misidentified ☐	Past Due ☐																																																																

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150381

647 1501

Required Qty: 1.00

Comments: IPP REV:A 14.03.03 NEW ISSUE DD VERF:JLM IPP
REV:B 14.09.16 PER ECN14-621/REV NC2 DD VERF:JLM IPP REV:C
14.12.02 AS PER DWG REV.A DD VERF:JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
MS20470AD4-12		Purchased	No				Each	90.0000		2			DAS 36 9-89
MS20470AD4-12 Rivet													
				<u>Location</u>			<u>Loc Qty</u>		<u>Loc Code</u>				
				ST309			90						
				m130297			90			2			
647.1511		Manufactured	No			110	Each	6.0000	1	1			
647 1511 Lower Deflector													
				<u>Location</u>			<u>Loc Qty</u>		<u>Loc Code</u>				
				CCK090			6						
				124241			6			1			
647.1512		Manufactured	No			110	Each	6.0000	1	1			
647 1512 Breakaway Tip													
				<u>Location</u>			<u>Loc Qty</u>		<u>Loc Code</u>				
				CCK107			6						
				137334			6						

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐								
Misidentified ☐	Past Due ☐	OTHER :							

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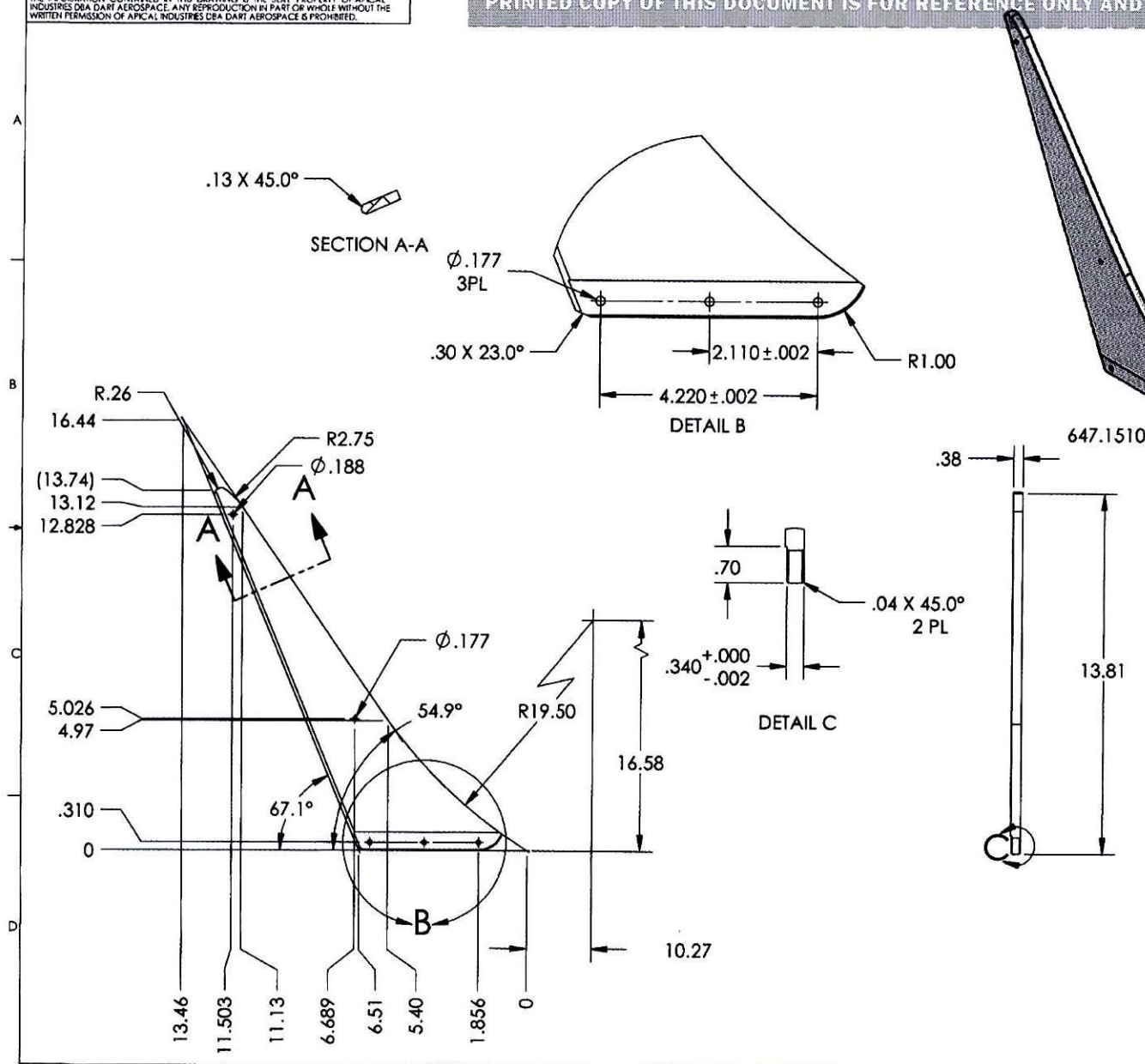
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REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
REV.	LAST PROTOTYPE REVISION: PR1		M/C
M/C	INITIAL RELEASE	06/10/09	P. BRAVO
A	INCORPORATED ECH 02940, 04673, 04743	11/17/14	P. BRAVO
B	INCORPORATED ECH 03301	02/29/16	P. BRAVO
C	INCORPORATED ECH 05344	03/16/16	P. BRAVO

NOTES:

- 1 MATERIAL: ALUMINUM 7075-T651 PER AMS-QQ-A-250/12
- 2 FINISH PER MPP-172 SECTION 2.1, 3.3 & 4.3, 1-2 MIL MAX
3. DEBURR AND BREAK ALL SHARP EDGES
4. IDENTIFY IAW MPP-120
- 5 APPLY F/N 5 AS REQUIRED TO ALL FAYING SURFACES OF F/N 2 & 3 UPON ASSY

SHOW COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 150381 MJS
160829

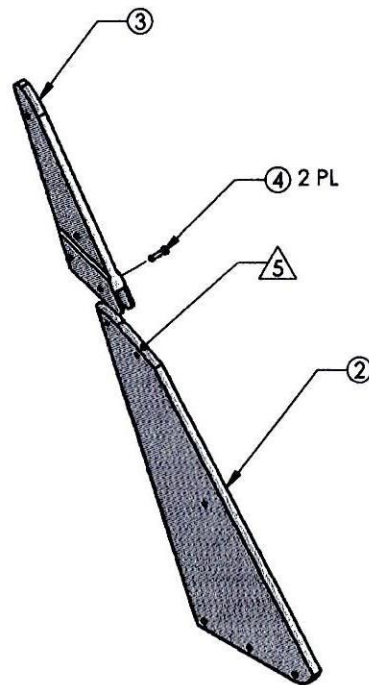


QTY	6	647.1513	UPPER DEFLECTOR		
A/R	5	601.2045	RIV. LOCTITE 598		
	2	600.0523	RIVET	MS20470AD4-12	
	1	647.1512	BREAKAWAY TIP		
	1	647.1511	LOWER DEFLECTOR		
	1	647.1510	UPPER DEFLECTOR		
X		647.1501	LOWER DEFLECTOR		
			ASSY		
	1501				
	FIND #	PART #	DESCRIPTION	MATL	SPEC.
PARTS LIST					
NEXT ASSY (S)			ORIGINAL DATE 06-10-10		
647.1400			DRAWN BY: J. GARDNER		
			CHECKED BY: P. BRAVO		
			DRAWING APPROVAL		
			P. BRAVO		
			06-10-09		
			CONTRACT NO.		
			UNLESS OTHERWISE SPECIFIED		
			DIMENSIONS ARE IN INCHES		
			TOLERANCES ARE:		
			2 PLACE DECIMALS ±.01		
			3 PLACE DECIMALS ±.005		
			ANGLES ±.5°		
			DART AEROSPACE 3030 ENTERPRISE CT., SUITE A		
			APICAL INDUSTRIES INC. VISTA, CA. 92081		
			(760)-724-5300		
			DEFLECTORS		
			SIZE: 8 CAGE CODE: 07M26 DWG. NO.: 647.1500 REV: C		
			SCALE: NONE SHEET: 1 OF 6		

1 2 3 4 5 6 7 8

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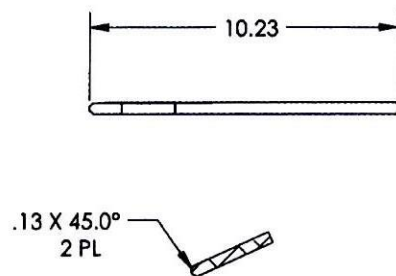


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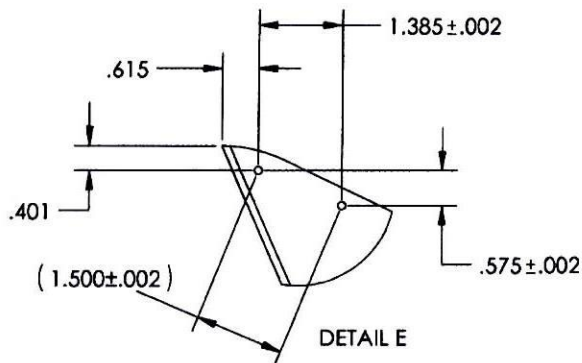
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DRAWN BY J. GARDNER		CHECKED P. BRAY	
DRAWING APPROVAL P. BRAY		APCAL INDUSTRIES, INC. DBA DART AEROSPACE	
CONTRACT NO.		DEFLECTORS	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS ±.01 3 PLACE DECIMALS ±.005 ANGLES ±.5°		REF B	CACT CODE 07M16
		QTY. NO. 647.1500	REV. C
		SCALE NONE	SHEET 2 OF 6

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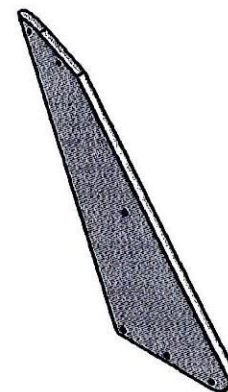
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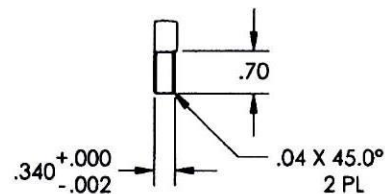
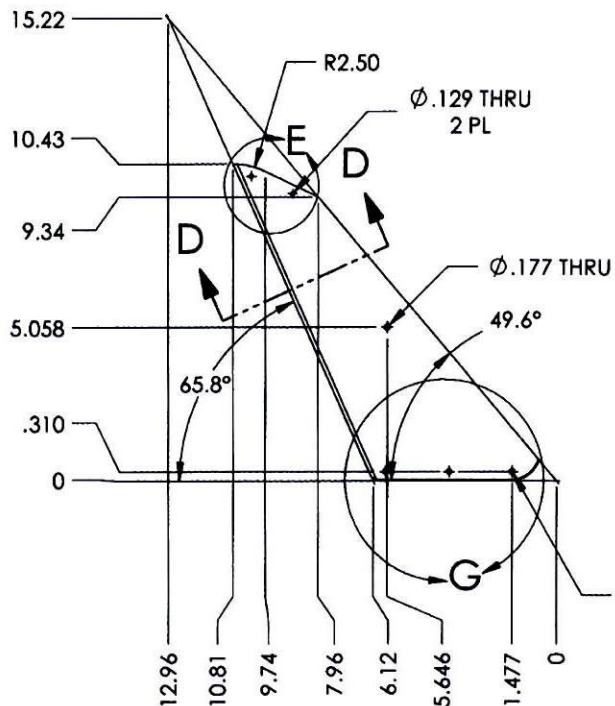
SECTION D-D



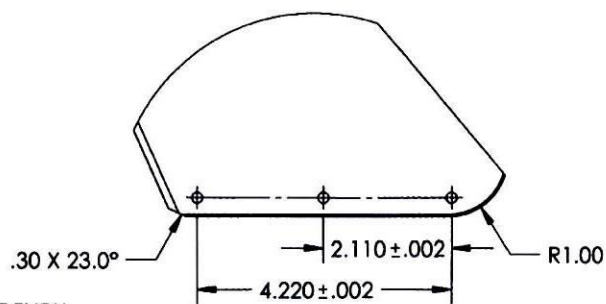
DETAIL E



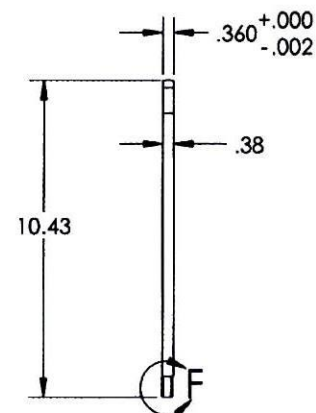
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DETAIL F



DETAIL G



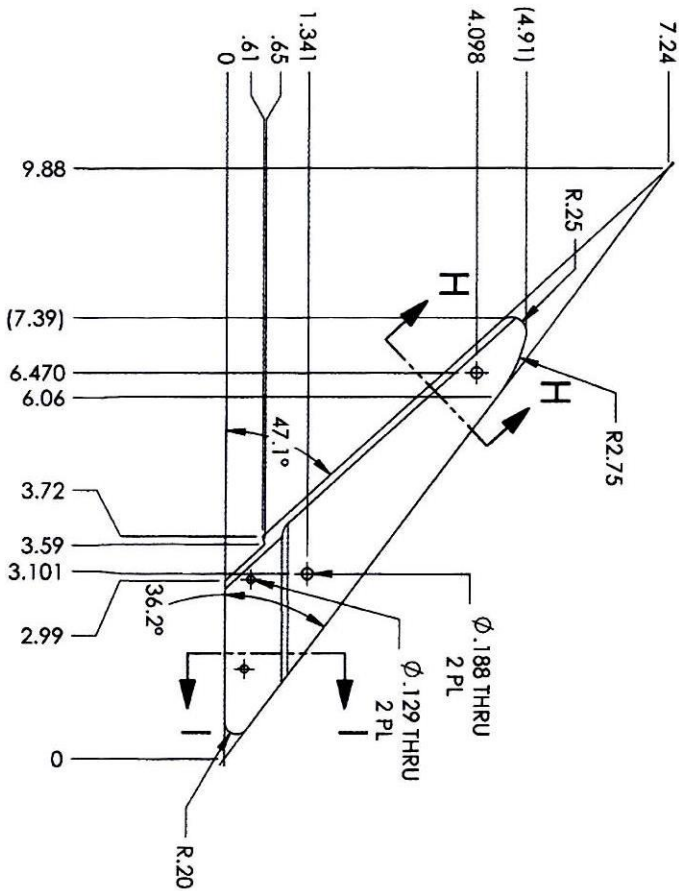
ORIGINAL DATE 1/20/00		DATE 06-10-10	
DRAWN BY J. GARDNER		CHECKED BY P. BRAVO	
DRAWING APPROVAL P. BRAVO		DATE 06-10-10	
CONTRACT NO.			
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS ± .01 3 PLACE DECIMALS ± .005 ANGLES ± .5°			
DART AEROSPACE APICAL INDUSTRIES INC. DBA DART AEROSPACE		3030 ENTERPRISE CT., SUITE A VISTA, CA. 92081 (760)-724-5300	
DEFLECTORS			
SIZE B	CAGE CODE 07MA26	DWG. NO. 647.1500	REV. C
SCALE NONE		SHEET 3 OF 6	

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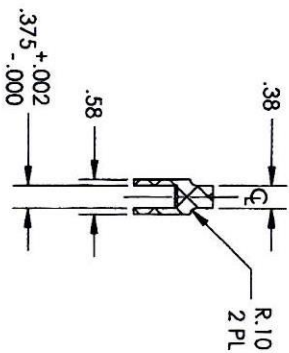
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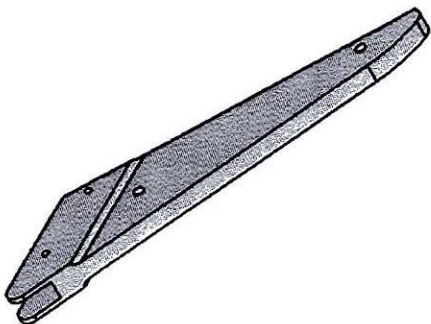
SECTION H-H



SECTION I-I



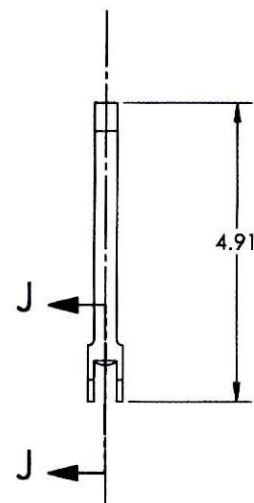
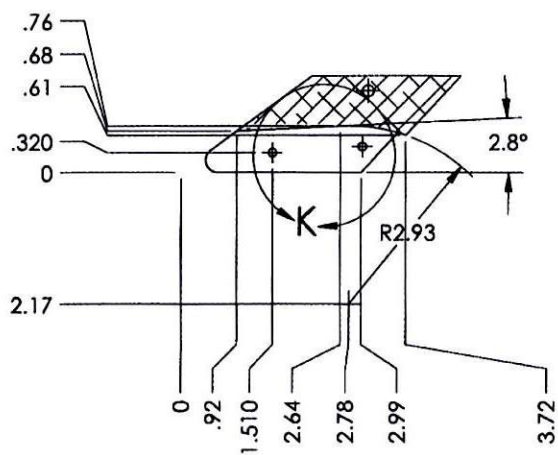
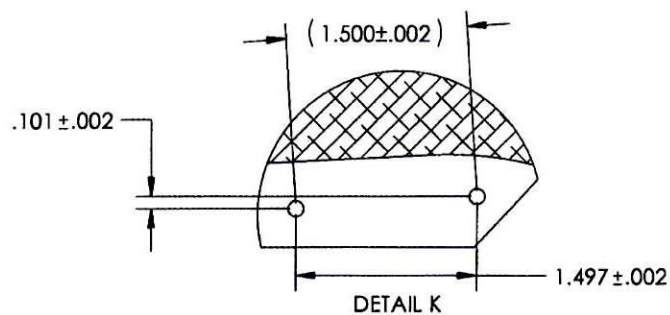
647.1512



DESIGN UNIT	DATE	3030 ENTERPRISE CT.
DRAWN BY	DATE	APCAL INDUSTRIES INC.
CHECKED BY	DATE	1760-724-5000
APPROVED BY	DATE	DEFLECTORS
DATE	DATE	647.1500
SCALE	SCALE	SHEET 4 OF 6

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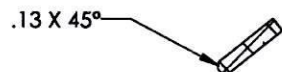


647.1512 RIGHT VIEW

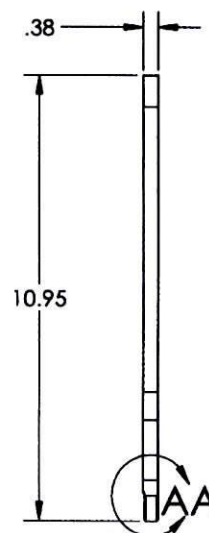
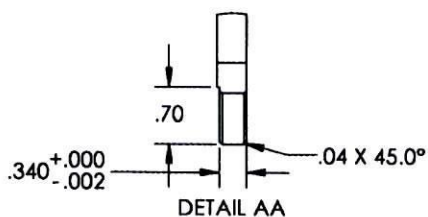
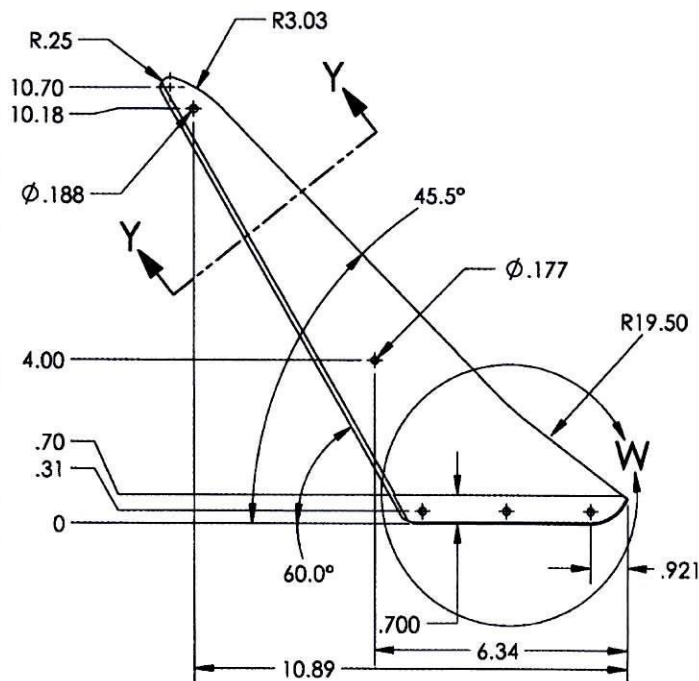
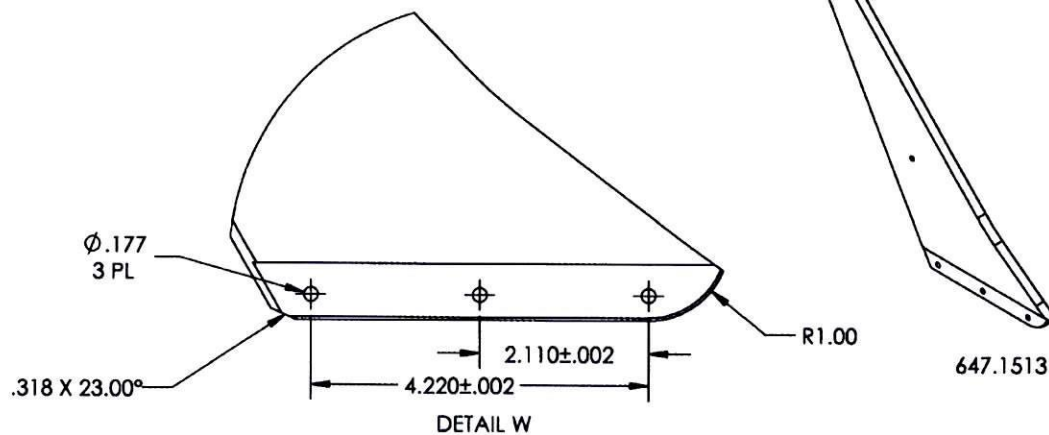
ORIGINAL DATE 04-10-19		3030 ENTERPRISE CT., SUITE A VISTA, CA. 92081 (760)-724-5300	
DRAWN BY J. GARDNER	CHECKED BY P. BRAVO	DEFLECTORS	
DRAWING APPROVAL 04-10-19		APICAL INDUSTRIES INC. DBA DART AEROSPACE	
CONTRACT NO.		REV. C	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS ± .01 3 PLACE DECIMALS ± .005 ANGLES ± .5°		SIZE B	CAGE CODE 07M26
SCALE NONE		DWG NO. 647.1500	SHEET 5 OF 6

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SECTION Y-Y



ORIGINAL DATE 04-19-12		DART 3030 ENTERPRISE CT., AEROSPACE SUITE A VISTA, CA 92081 (760) 724-5300	
DRAWN BY J. GARDNER	CHECKED BY P. BRAVO		
DRAWING APPROVAL P. BRAVO		DEFLECTORS	
CONTRACT NO.		SHEET B	REV. C
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS .001 3 PLACE DECIMALS .0005 ANGLES .5°		DWG. NO. 647.1500	SCALE NONE
		SHEET 6 OF 6	